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Did You Know ?

O&C Bldg., Room 1103

Hours of Operation:

Monday - Friday
7:00 am - 5:00 pm

Phone 321-867-7497
Fax 321-867-1144

RehabWorks is a free on-site musculoskeletal rehab service for badged KSC and CCAFS employees with a work, non-work or sports-related injury. Prompt treatment for injuries. Checkout our Web page.

In The Next Issue

Common Tests Used by Physicians To Diagnose Your Injury

Web Links

http://www.cdc.gov/nceh/hsb/extremeheat/FAQs.htm

http://www.srh.noaa.gov/ftproot/ssd/html/heatwv.htm

http://www.physsportsmed.com/issues/1997/06jun/sandor.htm

From The Supervisor

Well the heat of summer is fully upon us, and right now you are wishing for the coolness of fall. Of course in Florida, that coolness usually doesn't arrive until sometime in October! Until that day comes, this issue of Athletic Training Times will assist you with ways to protect yourself from the heat. Whether you are working or playing outdoors, the risk for heat illness is extremely high during the summer months. Being able to recognize its signs and symptoms has the potential of saving someone's life – maybe even your own.

While we are on the topic of "extremes", I am pleased to share with you an article written by Erik Nason, RehabWorks Assistant Athletic Trainer. Many of you know him as your friendly, neighborhood ATC who cares for the industrial athletes of KSC. What you may not know is that his part time job takes him to places throughout the U.S. caring for extreme athletes… those men and women involved in rodeos and race cars. Over the past three years, he has helped to expand the role of the ATC in this exciting competition arena. Even though they may seem to live in another world – that of extreme sports – these athletes have something in common with the employees of KSC… they, like you, injure muscles, ligaments and bones and have a certified athletic trainer caring for them.

I hope that you enjoy this issue, and that you take the dangers of extreme heat to heart in order to protect yourself from heat illness. As always, if you have any questions regarding this or any other musculoskeletal/health topic, please contact us at 867-7497.

Sincerely,
Mary K. Kirkland, MS, ATC/L, CSCS

Rehabworks Tips

Heat Illness Prevention at KSC

What happens to the body as a result of exposure to extreme heat?

People suffer heat-related illness when the body's temperature control system is overloaded. The body normally cools itself by sweating. But under some conditions, sweating just isn't enough. In such cases, a person's body temperature rises rapidly. Very high body temperatures may damage the brain or other vital organs. Several factors affect the body's ability to cool itself during extremely hot weather. When the humidity is high, sweat will not evaporate as quickly, preventing the body from releasing heat quickly. Other conditions that can limit the ability to regulate temperature include old age, youth (age 0-4), obesity, fever, dehydration, heart disease, mental illness, poor circulation, sunburn, prescription drug use and alcohol use.

What is heat stroke?

Heat stroke is the most serious heat-related illness. It occurs when the body becomes unable to control its temperature: the body's temperature rises rapidly, the sweating mechanism fails, and the body is unable to cool down. Body temperature may rise to 106°F or higher within 10 to 15 minutes. Heat stroke can cause death or permanent disability if emergency treatment is not provided.

What are the warning signs of a heat stroke?

- An extremely high body temperature (above 103°F)
- Red, hot, and dry skin (no sweating)
- Rapid, strong pulse
- Throbbing headache
- Dizziness
- Nausea
- Confusion
- Unconsciousness

What should I do if I see someone with any of the warning signs of heat stroke?

If you see any of these signs, you may be dealing with a life-threatening emergency. Have someone call for immediate medical assistance while you begin cooling the victim. Do the following:

- Get the victim to a shady area.
- Cool the victim rapidly, using whatever methods you can. For example, immerse the victim in a tub of ice water, (arms and legs on outside); place the person in a cool shower; spray the victim with cool water f rom a garden hose; sponge the person with cool water; or if the humidity is low, wrap the victim in a cool, wet sheet and fan him or her vigorously.
- Monitor core body temperature and continue cooling efforts until the body temperature drops to 101-102°F.
- If emergency medical personnel are delayed, call the hospital emergency room for further instructions.
- Get medical assistance as soon as possible.

What is heat exhaustion?

Heat exhaustion is a milder form of heat-related illness that can develop after exposure to high temperatures and inadequate or unbalanced replacement of fluids.

What are the warning signs of heat exhaustion?

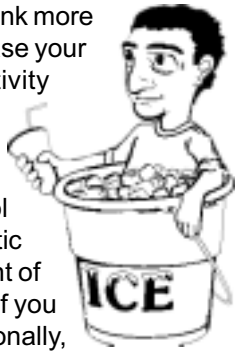
- Heavy sweating
- Paleness
- Muscle cramps
- Tiredness
- Weakness
- Dizziness
- Headache
- Nausea or vomiting
- Fainting

The skin may be cool and moist. The pulse rate will be fast and weak, and breathing will be fast and shallow. If heat exhaustion is untreated, it may progress to heat stroke.

What steps can be taken to cool the body during heat exhaustion?

- Drink cool, non-alcoholic, non-caffeinated beverages.
- Rest.
- Take a cool shower, bath, or sponge bath.
- Seek an air-conditioned environment.
- Wear lightweight clothing.

How much should I drink during hot weather?



During hot weather you will need to drink more liquid than your thirst indicates. Increase your fluid intake, regardless of your activity level. During heavy exercise in a hot environment, drink two to four glasses (16-32 ounces) of cool fluids each hour. Avoid drinks containing alcohol or caffeine; they can act as a diuretic (cause you to lose fluid) so the amount of fluid you take in is less effective than if you drank water or sports drinks. Additionally, alcohol has other affects on the body, which can potentially affect thermoregulation.

Should I take salt tablets during hot weather?
Do not take salt tablets unless directed by your doctor.
Heavy sweating removes salt and minerals from the body. These are necessary for your body and must be replaced. The easiest and safest way to do this is through your diet. Drink fruit juice or a sports beverage when you exercise or work in the heat.

What should I do if I work in a hot environment?

Pace yourself. If you are not accustomed to working or exercising in a hot environment, start slowly and pick up the pace gradually. If exertion in the heat makes your heart pound and leaves you gasping for breath, STOP all activity. Get into a cool area or at least in the shade, and rest, especially if you become lightheaded, confused, weak, or faint.

Source: ***http://www.cdc.gov/nceh/hsb/extremeheat/FAQs.htm***

The Athletic Training Room

Extreme Sports and Athletic Training

By Erik T. Nason, MS, ATC/L, CSCS
Assistant Athletic Trainer, KSC RehabWorks

Move over basketball, move over football, here comes the extreme sports. Actually, they are all around you - in the Olympics, in the movies, and on TV; in fact, ESPN has their own X-Games series. What are extreme sports you ask? As defined by Webster, "extreme" is "very great or intense", "very severe, with drastic measures", "going great lengths or beyond normal limits", or "most remote, the end". And you can't sign up for extreme sports in high school or the local YMCA. Some examples include auto racing, freestyle motor cross, skateboarding, downhill skiing, snowboarding, bull riding, rodeo, and street luge…just to name a few. The athletes involved in these types of events have taken sports one-step further by pushing the limits. There are a lot of "traditional" sports fans that don't consider the participants of these "extreme" sports to be athletes. So lets compare some facts so you can decide for yourself.

In the following chart I took 12 intrinsic and extrinsic factors and rated their influence among 6 sports (3 traditional and 3 "extreme"). There is no scientific data behind this chart and outcomes could vary depending on specific situations. I developed it to show the general similarities and differences between traditional sports and extreme sports. This chart is scaled as follows: 1=minimal influence, 2 = moderate influence, 3=50/50, 4 = above average influence, 5 = maximum influence.

The skills and abilities of the athletes that participate in extreme sports seem to match up equally when compared to the traditional athletes. However, when viewing the composite score, the extreme sports seem to take more of a physical toll on the athletes' bodies. One aspect that definitely is in unison across the board is that injuries can occur to either type of athlete. Certified Athletic Trainers (ATCs) have been involved in those "traditional" sports found in high schools, colleges and the professional ranks for years. The sports medicine care that ATCs have been providing these traditional athletes have allowed them to return to play safely and productively game after game. Over the last 5-10 years, ATCs have started to think outside the box and show that their skills can play a vital roll in the care of extreme sport athletes. They have become a vital member of numerous extreme sports teams. Anytime an athlete takes his or her skills to the limit, injuries are usually not too far behind… and neither is the ATC! My involvement with extreme sports is evidence of that teamwork.

Over the last few years, I have had the opportunity to provide athletic training care to cowboys and cowgirls of the Professional Bull Riders (PBR) and the Professional Rodeo Circuit Association (PRCA). Additionally, I serve as the Program Manager of Sports Medicine for the International Motor Sports Association (IMSA) sports car racing series. There is nothing more extreme then a cowboy riding a 3000 lb. bull for 8 seconds or a driver maneuver a sports car through a road course at speeds in excess of 150 mph while battling traffic.

The Justin Boots Sports Medicine Team was put together to provide free sports medicine care to

THE "X" FACTOR	Football	Baseball	Basketball	Auto Racing	Bull Riding	Snowboarding
Aerobic	1	1	3	2	1	2
Anaerobic	4	2	4	2	5	5
▲Heart Rate	3	3	4	4	5	4
▲Core Temp	4	3	3	5	2	2
Muscular Strength	5	3	3	3	5	4
Agility	5	3	4	5	3	5
Balance	3	2	3	2	5	5
Water Loss	4	3	3	5	2	2
High heat Stress (100+ degrees)	3	2	1	5	2	1
"G" Forces	0	0	0	5	3	1
Injury Factor	4	2	3	4	5	4
"Guts" Factor	3	2	2	4	5	3
Total	**39**	**26**	**33**	**46**	**43**	**38**

The Athletic Training Room (Cont'd)

cowboys and cowgirls across the nation at sanctioned PRCA and PBR events. The services are provided by ATCs, whose primary role is to focus on injury prevention. The ATCs are an integral part of the health care team, which includes physicians, paramedics and EMTs. The ATCs tape ankles, elbows, knees, and wrists in order to prevent an injury and to provide additional support depending on the athlete and their event. They also provide emergency care, first aid care, and chronic injury evaluations. A 20 year study conducted by The Justin Boots Sports Medicine Team showed that the three most common injury sites to cowboys are the 1) the head and face (13.69%), 2) the shoulder (11.46%), and 3) the low back (8.45%). The most common injury types are by far 1) concussions, followed by 2) shoulder dislocations, and 3) chest/rib fractures.

The Sports Medicine Program for IMSA was put together by the Mobile Sports Medicine Group to provide sports medicine care to the drivers, crewmembers, team members, officials and safety personnel at each racetrack. The Sports Medicine facility is housed in a 30-foot box truck that functions as a mobile sports medicine clinic. This allows us to travel to 11 races in three countries and keep all of our treatment modalities, equipment and medical gear at our fingertips. The mobile sports medicine unit is called the Human Performance Center (HPC) and is staffed by a team of 2 ATCs, an orthopaedic physician and a team manager. The HPC provides all racing participants with acute, chronic and emergency care. The HPC has the ability to provide professional and onsite injury evaluations that will help with efficient care of acute and chronic injuries.

The majority of these extreme athletes travel week after week, which makes it hard for them to have continuity of care by an allied health care professional. These mobile sports medicine programs allow ATCs to follow these athletes from event to event, giving them the continuity of care that they need. Home exercise programs and rehabilitation protocols are designed specifically for each patient to complete between each event. The easy access and free service of these sports medicine programs allows these athletes to participate with ease of mind that there is care right around the corner.

ATCs are proving to be a vital aspect in all realms of sports. It seems to be a given, where there are sports, there are injuries; where there are injuries there should be an ATC. To learn more about ATCs in extreme sports, check out the RehabWorks website to view a complete power point presentation under the research and presentation link.

The RehabWorks Staff

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